

ABSTRACT OF THE DISCLOSURE

A linear motor (M) has a linear motor movable element (10) made up from a group of permanent magnets (1a - 1d), and a linear motor stator (20) made up from 5 two electromagnetic coils (2a, 2b). The polarization directions of the permanent magnets (1a, 1c) of the linear motor movable element (10) are opposite to each other in a y-axis direction perpendicular to an x-axis 10 direction which is a moving direction. The permanent magnets (1b, 1d) with the same rectangular parallelepiped shape and a polarization direction rotated from each other through 90° are arrayed between the permanent magnets (la, lc). An ideal sine wave 15 magnetic field is thus formed.